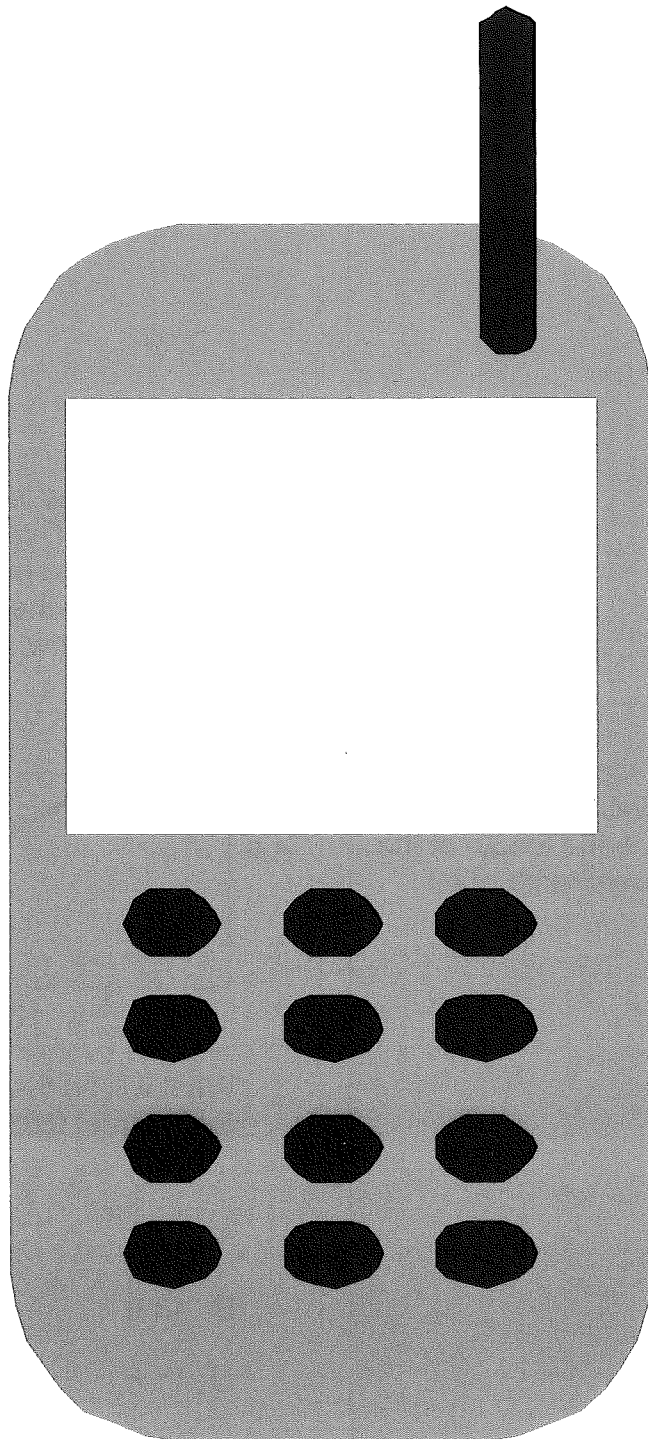




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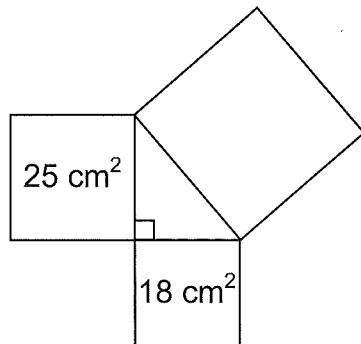
Text Message

Your best friend is at home with the chicken pox. Write a text message that you could send to your friend that explains the difference between area and perimeter. Be sure to include the unit of measure in your response.





- 1 The vertices of 3 squares are joined to form a right triangle. What is the area of the largest square?



- A 6.5 cm^2
 B 7 cm^2
 C 33 cm^2
 D 43 cm^2

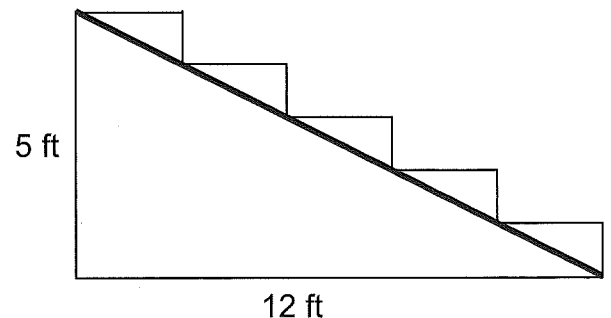
- 2 The screen on a computer monitor has a length of 15 inches and a width of 12 inches. What is the length of the diagonal to the nearest tenth of an inch?

- A 27.0 inches
 B 19.2 inches
 C 16.4 inches
 D 9.0 inches

- 3 A square tabletop has an area of 9 square feet. What is the length of the diagonal of the tabletop to the nearest tenth of a foot?

- A 4.2 feet
 B 6.4 feet
 C 12.7 feet
 D 18.0 feet

- 4 A set of steps is 12 feet long and 5 feet high. The steps are being replaced by a handicap ramp as indicated by the bold line in the diagram below.



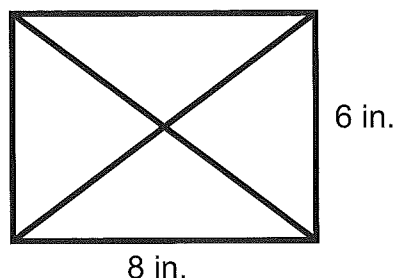
What will be the length of the ramp to the nearest foot?

- A 17 ft
 B 13 ft
 C 11 ft
 D 7 ft



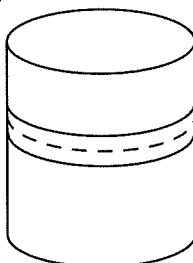
- 1 The rectangular den in Mattie's house is 10 feet longer than its width. If the width of the den is 12 feet, what is the length of wallpaper border that Mattie should purchase to go around the perimeter of the den?

- 2 Judy is creating a rectangular stained glass window using the diagram below. The dark lines represent the strips of lead used to create the design.



Find the total length of the lead strips needed to create the design.

- 3 Abelina is decorating soft drink koozies to sell at the school carnival by gluing a strip of decorative ribbon around the koozie.



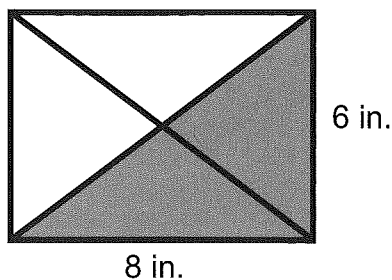
If the diameter of the koozie is 6 centimeters, about how many centimeters of ribbon will Abelina need to decorate 12 koozies?

- 4 Troy's rectangular swimming pool has a perimeter of 244 feet. If the length of the pool is 82 feet, find the area of the swimming pool.



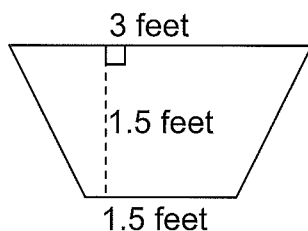
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- 5 For Judy's stained glass window, she plans on painting the shaded sections of the window with turquoise paint.



Find the total area in square inches of the stained glass window that will be covered with turquoise paint.

- 6 The student desks at Valerie's school are shaped like isosceles trapezoids.



The surface of each desk will be covered with a laminate film to protect it. Find the area in square feet of the laminate needed for each desk.

- 7 The Rotunda at the United States Capitol is a large circular room that connects the House and Senate sides of the Capitol. If the room has a diameter of 96 feet, approximately how many square feet is the tile floor of the Rotunda?

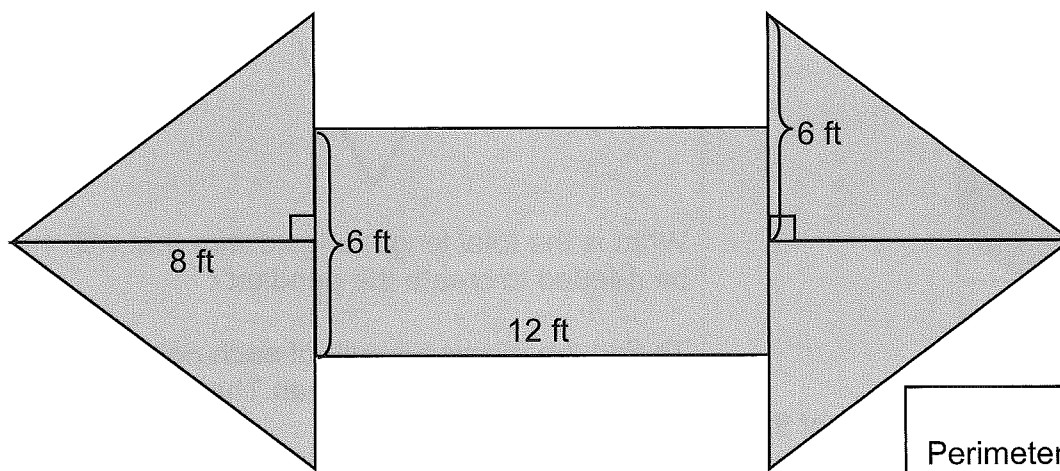


Independence Day Parade

The Student Council is building 2 floats for the Independence Day Parade. The two designs for the float bases are pictured below. Once each base has been built, twinkling lights will outline the perimeter. Determine the square footage of each base and how many feet of twinkling lights will be needed for each float.

Design 1:

Four congruent right triangles are attached to a rectangular region.

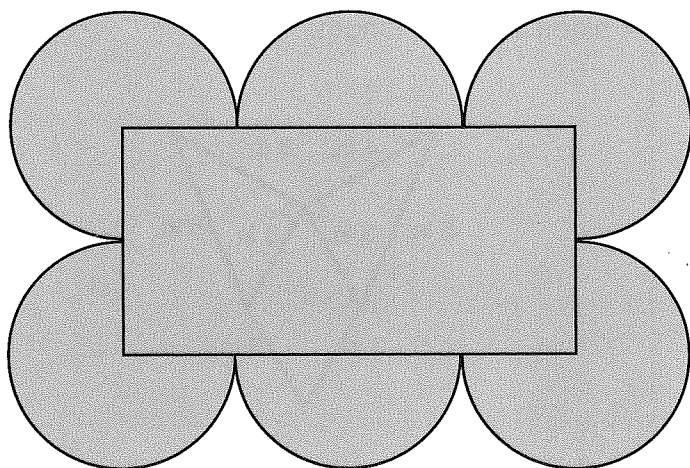


Perimeter = _____

Area = _____

Design 2:

Each circular region has a radius of 3 feet. The vertices of the rectangle fall on the centers of the four corner circular regions.



Perimeter = _____

Area = _____



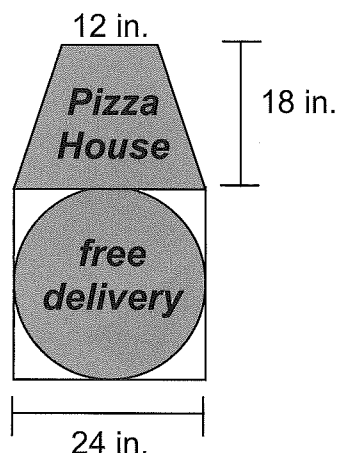
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Independent Practice

Use the formulas from your **Formula Chart** to find perimeter, circumference, or area.

Example 1:

A pizza company has designed the following logo for their delivery vehicles.



To find the area of the shaded region of the logo, find the area of the trapezoid and circle.

To find the area of the trapezoid:

$$A = \frac{(b_1 + b_2)h}{2} = \frac{(12 + 24)(18)}{2} = 324 \text{ in.}^2$$

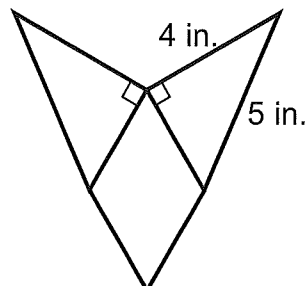
To find the area of the circle:

$$A = \pi r^2 = 3.14(12^2) = 452.16 \text{ in.}^2$$

The area of the shaded region of the logo is $324 \text{ in.}^2 + 452.16 \text{ in.}^2$, or 776.16 in.^2 .

Example 2:

A jeweler is designing a gold pendant of a rhombus and 2 congruent right triangles.



What is the total length of gold wire that will be needed to create the pendant?

To find the missing length of each right triangle, use the Pythagorean Theorem.

$$a^2 + b^2 = c^2$$

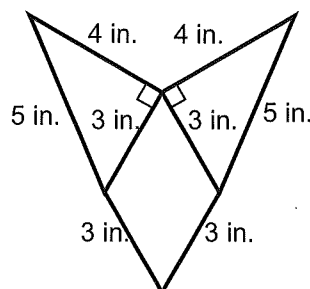
$$a^2 + 4^2 = 5^2$$

$$a^2 + 16 = 25$$

$$a^2 = 9$$

$$a = 3$$

The missing leg of the right triangle is 3 inches. This is also the side length of each side of the rhombus since a rhombus has 4 sides of equal length.

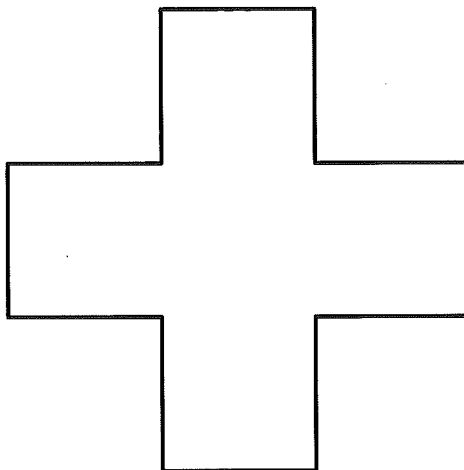


To find the total length of gold wire needed to make the pendant, add all the lengths in the diagram. The total length is 30 inches.



Emergency Logo

The logo for the side of an ambulance is pictured below.



If the border design is composed of congruent line segments that have a combined length of 72 inches, what is the area of the logo? Justify your answer.

FOR TEACHER USE ONLY:

a. YES NO Student arrives at a correct solution?

	4	3	2	1
b. Conceptual Knowledge				
c. Procedural Knowledge				
d. Communication				



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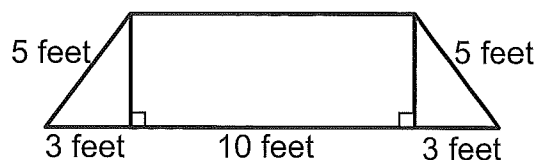
- 1 A logo is made of an equilateral triangle that has a side length of 8 inches. What is the approximate area of the logo to the nearest square inch?

A 28 square inches
B 32 square inches
C 56 square inches
D 192 square inches

- 2 The center circle on a basketball court has a radius of 6 feet. The center circle on a hockey rink has a radius of 15 feet. Approximately how many more square feet are in the center circle of the hockey rink than in the center circle of the basketball court?

A 113.04 square feet
B 593.46 square feet
C 706.5 square feet
D 819.54 square feet

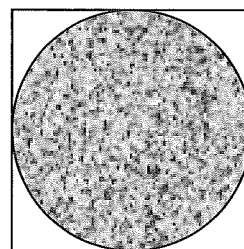
- 3 The frame for an art canvas will be built as outlined below. The bold lines represent the lumber that will be used to create the frame.



How many feet of lumber are needed to create the frame?

A 26 feet
B 36 feet
C 44 feet
D 52 feet

- 4 A large chocolate chip cookie is placed on a square platter. Approximately how many square inches of the platter are NOT covered by the cookie?



12 inches

A 308.16 square inches
B 144 square inches
C 113.04 square inches
D 30.96 square inches